

## MINUTES OF THE BOARD MEETING

### 1 JULY 2015, BRUSSELS, BELGIUM

#### **Present:**

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Bernard Quoix, President (BQ)	Total
Robert Rijdsdijk (RR)	Shell
Pericles Pilidis (PP)	Cranfield University
Niko Cornelis (NC)	Engie (GDF Suez)
Herwart Hönen, Treasurer (HH)	RWTH Aachen University
Gary Lock (GL)	Frazer Nash Consultancy
Giovanni Cerri (GC)	University Roma TRE
Christer Björkqvist (CB)	ETN
Dominique Cornut (DC)	ETN

#### **Apologies:**

Catherine Goy, Vice President (CG)	E.ON Technologies
Andy Williams (AW)	Chromalloy
Thomas Volks (TV)	MTU

#### **Content:**

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1. Welcome and opening of the Board meeting
2. Review and approval of the MoM, 21 April 2015
3. Review and report of actions list from the MoM, 21 April 2015
4. ETN Activities Update
5. Affiliate Membership Feedback and way forward
6. Cooperation with GTUsers.com and User Meetings – way forward
7. Upcoming ETN meetings
  - a. October Workshop 2015
  - b. International Gas Turbine Conference 2016
8. Closing of the Board meeting

Annex 1: Review of action lists from previous Board meetings

## **1. Welcome and opening of the Board meeting**

B. Quoix opened the meeting and welcomed the Board members. C. Goy and A. Williams were not able to attend due to a strike at Eurostar and joined via teleconference call for the first part of the Board meeting. T. Volks sent his apologies for not being able to join the Board meeting.

## **2. Review and approval of the MoM, 21 April 2015**

Amendment: B. Quoix stated that Pete Collins, INPEX is not based in Tokyo, Japan but in Perth, Australia. It was agreed that C. Björkqvist should send him an email later this autumn and copy B. Quoix.

The Board unanimously approved the April Board meeting minutes.

## **3. Review and report of actions list from the MoM, 21 April 2015**

The status of all actions is updated in the Annex. The following comments were added by the Board:

### **ETD Consulting/Laborelec Study on Consulting on Guidelines for Preservation of CCGT**

N. Cornelis reported that Engie (GDF Suez) could share the results of the study based on an exchange of knowledge. R. Rijdsdijk expressed an interest in receiving the results of this study and reported that Shell would be happy to review the guidelines and provide their comments and recommendations. The Board agreed that it would be useful to develop a best practise standardisation document. The first step would be to set-up a teleconference call with interested users.

**Action:** NC to send the results of the Study on *Consulting on Guidelines for Preservation of CCGT* to RR.

**Action:** CB to set-up a teleconference call with interested users to discuss a potential process for the development of common guidelines for the preservation of CCGT.

### **Affiliate Members: Strategy to engage users**

With regards to the action on the widening of the user community to African countries, R. Rijdsdijk mentioned that according to him the best way forward would be to identify key users in a specific region and send them an invitation for an ETN meeting in this region. He explained that users outside Europe usually need face-to-face meeting in order to establish trust and this would show our interest of having them on board. The Board welcomed this idea and agreed that this format could be used for other regions as well, like in South America and the Middle East.

**Action:** CB to propose a draft structure for meetings with potential Affiliate Members in specific regions.

### **Template for future EU-funded project proposals**

C. Björkqvist reported that he had a discussion with a representative of the European Commission (EC) to discuss the evaluation of ETN's project proposals and the fact that the EC is leaving too much responsibility to external reviewers. He also added that the group of evaluators should have at least one expert that knows the topic well in order to review the reviewers' evaluation. The EC representative stated that he would bring this comment internally. C. Björkqvist reiterated that ETN has to be extremely clear when writing the proposals and put in bold key elements in the future.

Based on ETN's experience from the past calls, it was proposed to develop guidelines which would be developed by ETN's Project Board. It was agreed that these guidelines should be ready before the October Workshop and before the publication of the next Horizon 2020 Work Programme 2016-2017, set to be published in September 2015.

#### Potential members

C. Björkqvist reported that he met with Alvaros Barcello, Vice-President, Programmes, GKN Aerospace, which was very interested in ETN activities.

**Action:** CB to follow-up with Alvaros Barcello, GKN Aerospace about membership opportunities.

#### **4. ETN Activities Update**

The Board took note of the Activities Update, which was circulated ahead of the meeting by the ETN office.

R. Rijsdijk proposed to highlight two or three main themes that would be of utmost importance to ETN strategy for the coming years and start the Activities Update with an update on these themes. The Board welcomed this idea and decided to discuss further the themes to be addressed later in the morning (see page 4).

#### **5. Affiliate Membership Feedback and way forward**

C. Björkqvist reported on the individual responses received from potential Affiliate Members and made some conclusions based on the feedback received (see C. Björkqvist's Board presentation sent with the minutes). The main comments were related to the name of ETN which refers to a European Association rather than an international one and the fact that the Affiliate membership category is sometime perceived as a second class membership. The Board discussed thoroughly the different solutions and the way forward and concluded that it would be wise not to change the name of the European Turbine Network. On the other side, P. Pilidis suggested that we could use the acronym more than the full name. An additional issue that C. Björkqvist highlighted was that as many users are already involved in user groups on specific GT models, the differences between them and ETN need to be clearly explained. G. Lock summarised the discussion by stating that by the end of the day, these problems will disappear if we can clearly demonstrate the benefits of joining ETN.

Board members asked the ETN office to review the Members' and Affiliate Members' rights in the Articles of Association. C. Björkqvist stated that he would create a document comparing the rights of the Full Members and Affiliate Members.

With regards to the way forward, C. Björkqvist proposed to "package" our Affiliated Membership differently by highlighting our strategy to set-up regional user networks under the ETN umbrella for Affiliate Members (GT User China, GT User Middle East, GT User South America, etc.). R. Rijsdijk stated that we would need to make sure that the groups are not working on the same issues at the same time and that it would require a coordination effort by ETN. C. Björkqvist agreed and stated that we would need to establish clear rules and guidelines as well as arranging a yearly joint meeting. Prior to such a meeting the individual regional user networks would need to send a report to ETN on their main issues and requirements from this region and also prepare a presentation for ETN meetings and workshops, C. Björkqvist proposed.

The Board welcomed the idea of developing a comprehensive package to attract and retain Affiliate Members. It was agreed that it should be written in a way that higher management would clearly understand the benefits. This package should also clearly state their rights.

There was a discussion about Intellectual Property as some Board members were concerned about access to ETN knowledge developed over the past 10 years and the transfer of know-how outside Europe. C. Björkqvist highlighted that for all EU-funded projects, only project partners involved have access to the results. When it comes to additional material, it is open for ETN members unless it has been stated that the material could not be shared. He also added that for the Exhaust Systems Project, it was agreed by the working group members that only the final outcome would be shared. For all projects in the future, the Board recommended to identify at an early stage the materials/results that cannot be shared.

It was also agreed that if a user would like to get involved in one of these regional groups (as Affiliate Member of ETN), they would have to pay upfront prior to any acceptance. With regards to China, it was agreed that no future exchange of information with the Chinese potential Affiliate Members should be done prior to receiving membership payment.

C. Björkqvist announced that ADGAS completed the Membership Application Form and that a membership invoice has been issued.

**Action:** CB to create a document comparing the rights of the Full Members and Affiliate Members.

**Action:** CB to draft a package to attract and retain Affiliate Members.

**Action:** Board to review the Affiliate Members package developed by the ETN office.

## **6. Cooperation with GTUsers.com and User Meetings – Way forward**

H. Hönen highlighted that in order to progress further on activities within the Technical Committees, it would be important to increase the participation of users. In the past, users have brought issues to the table but were not participating in the follow-up actions. He also mentioned that TC4 and TC5 are missing users in their groups. As a response to this, R. Rijdsdijk proposed that ETN should focus its efforts on key topics which are of high interest for the users in order to increase their participation in ETN activities. The Board agreed that this was a good way forward but highlighted that the users in the Board would have to take on the action of clearly defining these key topics and specific issues including their limits, bottlenecks as well as targets based on their internal calculations/business cases.

The “Flexibility” and “Cost” themes were identified by the Board as the main issues for the users. Under these themes, topics that could be addressed would need to be defined as building blocks (see table on next page as an example). It was agreed that the users would need to select a couple of building blocks to focus on. It was also proposed to select one or two engines under each theme that we could focus on when it comes to more specific issues. The engines with the most issues for the Oil & Gas users were defined as LM2500+G4 and RB211. N. Cornelis said that he would coordinate with C. Goy in order to identify the engines with the most issues for the power generation sector.

<b>Flexibility*</b>	<b>Cost*</b>
Multi-starts (more than twice a day)	Standardisation
Fast ramping	Maintenance
Minimum load	Reliability at plant level –“Big data” (systems+revenue)
Equivalent Operating Hour (EOH)	RAID – Remote Assistance Intervention Diagnosis
Start-up time	Cycle Time (48000)
Emissions	Optimised system
Fuel	

*\*Themes and building blocks above are not exhaustive and need to be completed by the users.*

**Action:** CG and NC to set-up a meeting between them to review the technical issues under the theme “Flexibility” and prepare a proposed way forward based on a staircase model

described by RR. They should also select two engines to focus on as well as discuss the set-up process for an exchange of knowledge related to the development of common guidelines for preservation of CCGT based on best practises.

**Action:** BQ and RR to set-up a two-day meeting between selected experts from Shell and Total to review and identify the technical issues under the theme “Cost” and prepare a proposed way forward based on a staircase model described by RR.

**Action:** CB to merge the two themes into an attractive draft package to be reviewed by the ETN Board before being presented to the ETN user community.

## **7. Upcoming ETN meetings**

### **a) October Workshop**

B. Quoix proposed to have a user meeting in the morning (8.30-11.00) before the October Workshop in order to present and discuss with additional users the proposed ETN user strategy and to ensure a wide participation of the users to the workshop. The Board welcomed this idea and decided that the users of the ETN Board would draft a proposal/agenda for this meeting. The top issues agreed at this meeting would then be presented to the ETN community at the beginning of the Workshop. Finally these issues would feed into ETN's Technical Committees and/or to be discussed with the OEMs with one voice. For the October Workshop, the following format was proposed:

#### **Day 1 - 21 October:**

**08:30-11:00** User meeting

**11:00-11:30** Coffee break

**11:30-13:00** Introduction and feedback presentation from the users to the Workshop participants

**13:00-14:00** Lunch

**Afternoon** Review presentation of users' feedback/individual sessions between TC

#### **Day 2 – 22 October:**

The day would be dedicated to individual TC meetings.

**Action:** BQ, RR, NC and CG to provide input to the invitation/agenda which would be sent ahead of the user meeting in order to have clear meeting objectives and attract a high number of users.

**Action:** CB to draft a preliminary invitation and send by the end of July a “save the date” pre-invitation for the user meeting.

### **b) International Gas Turbine Conference 2016**

With regards to the IGTC-16 sponsorship, C. Björkqvist stated that we would need to secure our sponsors and should contact MHI as soon as possible. B. Quoix said that he could support with this.

**Action:** BQ to invite MHI to become a gold sponsor for IGTC-16.

## **8. Upcoming meetings**

The Board decided that the next Board meeting should take place on 1 December 2015 in Brussels, Belgium.

<b>Name of Meeting</b>	<b>Date</b>	<b>Location</b>
ETN October Workshop	21-22 October 2015	Madrid, Spain

Board Meeting	1 December 2015	Brussels
Project Board and Chairpersons (TCs) Meeting	21-22 January 2015	Brussels

### **9. Closing of the Board meeting**

B. Quoix closed the Board meeting.

## **ACTION LIST**

<b>No</b>	<b>New Actions</b>	<b>Resp.</b>	<b>Date</b>
1	NC to send the results of the Study on <i>Consulting on Guidelines for Preservation of CCGT</i> to RR.	NC	July 2015
2	CB to set-up a teleconference call to discuss a potential process for the development of common guidelines for the preservation of CCGT with interested users.	CB	Aug 2015
3	CB to make a list of potential users in key regions outside Europe (Africa, Middle East, South America and Asia) and to propose a draft structure for meetings with potential Affiliate Members in specific regions.	CB	Sept 2015
4	CB to follow-up with Alvaros Barcello, GKN Aerospace about membership opportunities.	CB	Aug 2015
5	CB to create a document comparing the rights of the Full Members and Affiliate Members.	CB	Sept 2015
6	CB to draft a package to attract and retain Affiliate Members.	CB	Sept 2015
7	Board to review the Affiliate Members package developed by the ETN office.	Board	Sept 2015
8	CG and NC to set-up a meeting between them to review the technical issues under the theme "Flexibility" and prepare a proposed way forward based on a staircase model described by RR. They should also select two engines to focus on as well as discuss the set-up process for an exchange of knowledge related to the development of common guidelines for preservation of CCGT based on best practises.	CG, NC	July/Aug 2015
9	BQ and RR to set-up a two-day meeting between selected experts from Shell and Total to review and identify the technical issues under the theme "Cost" and prepare a proposed way forward based on a staircase model described by RR.	BQ, RR	July/Aug 2015
10	CB to merge the two themes into an attractive draft package to be reviewed by the ETN Board before being presented to the ETN user community.	CB	Oct 2015
11	BQ, RR, NC and CG to provide input to the invitation/agenda which would be sent ahead of the user meeting in order to have clear meeting objectives and attract a high number of users.	BQ, RR, NC, CG	Aug 2015
12	CB to draft a preliminary invitation and send by the end of July a "save the date" pre-invitation for the user meeting.	CB	July 2015
13	BQ to invite MHI to become a gold sponsor for IGTC-16.	BQ	Aug 2015

**ANNEX 1****STATUS OF ACTION LIST (from MoM April Board meeting, Brussels, Belgium)**

No	New Actions	Outcome/Next action	Resp.
1	NC to contact Michael Denève about sharing the results of the <i>Consulting on Guidelines for Preservation of CCGT</i> produced by ETD Consulting.	Done	NC
2	CB to follow up with Marcelo Miranda to receive a formal invitation for both CB and BQ for Petrobras meeting in August.	Postponed. The meeting has been postponed.	CB
3	BQ to provide the contact details of Pete Collins to the ETN office.	Done	BQ
4	ETN to contact Pete Collins from INPEX to schedule a meeting in November 2015.	Done. Since he is not based in Tokyo, CB will not be able to meet him in November.	ETN
5	ETN office to follow-up with Pierre Brousse, Solar with an indicative price for sponsorship (AGM)	On-going. DC reported that she has sent an email to Pierre Brousse but did not receive feedback yet.	ETN
6	CB to follow-up with EPRI on potential members that we could contact and to verify if they are going to the Petrobras meeting in August.	Postponed	CB
7	CB together with the Project Board to go through the evaluation report of EU proposal, write a letter to the EC and create a template for EU-funded project proposals. The Board agreed that H. Hönen should supervise this activity.	On-going. CB stated that the template should be ready for the October Workshop 2015.	CB, Project Board
8	CB to follow up with Montaser Zamzam from ADNOC to discuss membership fee of umbrella organisations depending on the number of companies they represent.	On-going	CB
9	CB to include a new section on umbrella user organisations in ETN's Internal Rules.	On-going	CB
10	BQ to follow up with Dolphin on ETN membership opportunities.	On-going	BQ
11	CG and PP to have a closer look into ORAP's databases in order to better understand if a partnership with ORAP would be beneficial for ETN.	On-going	CG, PP
12	CB to follow-up with Yrjö Komokallio on the potential merging of ETN and GTUsers.com's databases.	On-going	CB
13	CB to implement the Board changes on the Activities Initiation flow-chart	Done	CB
14	The Board to go through the Internal Rules circulated by the ETN office and provide their comments to the ETN office.	Done	Board



**PENDING ACTION LIST (from MoM December 2014 Board meeting)**

No	Actions	Outcome / Next action	Resp.
1	CB to spread ETN reserves into different banks.	On-going CB reported that an account is being opened at KBC.	CB
2	TV to meet with Bo Pedersen of Maersk to discuss ETN membership.	On-going	TV
3	CG to discuss membership opportunities with RWE npower.	On-going CG stated that she will meet a representative in June and will follow-up with him.	CG
4	CB to contact Rolls-Royce Wood Group to discuss membership opportunities.	Postponed RR proposed AW to contact them to become a member.	CB, AW
5	TV to contact MRO within the GKN Aerospace group to discuss membership opportunities.	On-going TV stated that he has been in contact with them and is hopeful to get a positive answer.	TV
6	CB to follow-up with Mechthild Wörsdörfer, EC in order to get her feedback from the IGTC and to propose a joint Dinner Debate in 2016.	Postponed CB will follow-up with her in the winter 2016 as now is too early.	CB
7	CB to contact Maria Martin from EPRI to ask for a list of user companies in South America.	Postponed	CB
8	CB to attend the next user groups meetings organised by Yrjö Komokallio.	Done	CB
9	CB to follow-up with Petrobras about membership opportunities.	On-going CB and BQ sent an email to Petrobras' high management but have not received any answer.	CB
10	ETN to make a list of potential users in key regions outside Europe (Africa, Middle East, South America and Asia).	Deleted	ETN office
11	CB to follow up with membership of Chinese utilities and propose topics for workshops to Professor Jiang.	Done	CB